**Claimed is:**

1.    A method for testing an echo canceller, comprising:

generating an excitation signal including a preamble portion and a test portion;

encoding the preamble portion with configuration information relating to the echo

5    canceller; and

transmitting the excitation signal to the echo canceller.


2.    The method of claim 1 including taking a performance measurement

responsive to the preamble portion.

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3.    The method of claim 2 including measuring the combined loss a

predetermined time before receiving the test portion.


4.    The method of claim 1 including encoding instructions in the preamble portion

15    that when executed by the echo canceller result in inhibiting adaptation and clearing a register

in the echo canceller.


5.    The method of claim 1 including encoding instructions in the preamble portion

that when executed by the echo canceller result in disabling a processor in the echo canceller.

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6.    The method of claim 1 including encoding a test identifier in the preamble

portion.


7.    The method of claim 1 including encoding a test signal identifier in the

25    preamble portion.


8.    The method of claim 1 including encoding the preamble portion in such a way

as to be capable of being differentiated from the test portion.


30    9.    A method of testing an echo canceller, comprising:

receiving an excitation signal including a preamble portion and a test portion;

decoding the preamble portion; and

controlling the echo canceller during testing responsive to the decoded preamble

portion.

10.     The method of claim 9 including:

inhibiting adaptation in the echo canceller responsive to the preamble portion; and

5       clearing a register in the echo canceller responsive to the preamble portion.

11.     The method of claim 9 including disabling a processor in the echo canceller responsive to the preamble portion.

10      12.     The method of claim 9 including identifying a test to be performed on the echo canceller responsive to the preamble portion.

13.     The method of claim 9 including identifying a type of test signal responsive to the preamble portion.

15      14.     The method of claim 9 including differentiating the preamble portion from the test portion.

15.     The method of claim 9 including controlling the echo canceller during testing to within a single sample time of the excitation signal.

20      16.     The method of claim 15 including controlling the echo canceller during testing to within 125 microseconds.

25      17.     A system for testing an echo canceller, comprising:

signal generating means for generating an excitation signal including a preamble portion and a test portion; and

controller means for controlling the echo canceller during testing according to the preamble portion.

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18.     The system of claim 17 including:

tail circuit emulating means for generating an echo back signal responsive to the test portion of the excitation signal; and

recording means for recording any received echo signal allowed to pass through the echo canceller.

19. The system of claim 17 wherein the preamble portion sets timing associated with performance tests defined in ITU-T G.165 and G.168 standards.

20. The system of claim 17 wherein the preamble portion identifies a type of test portion.

21. The system of claim 17 wherein the preamble portion identifies a performance test.

22. The system of claim 17 wherein the preamble portion is a correlated pulse code modulated sequence capable of being differentiated from the test portion of the excitation signal. ·

23. A system for testing an echo canceller, comprising:
signal receiving means for receiving an excitation signal including a preamble portion and a test portion; and
decoding means for obtaining configuration information by decoding the preamble portion.

24. The system of claim 23 wherein the echo canceller includes an H-register and a non-linear processor and wherein the configuration information includes any of the following:
instructions related to the management of the H-register;
instructions related to the management of the non-linear processor;
instructions related to an adaptation function in the echo canceller; and
timing information related to any of the aforementioned instructions.

25. The system of claim 23 wherein the decoding means differentiates the preamble portion from the test portion.

26.     A system for testing an echo canceller, comprising:

a signal generator for generating an excitation signal including a preamble portion and a test portion; and

a controller for controlling the echo canceller during testing according to the preamble

5      portion.

27.     The system of claim 26 including:

a tail circuit emulating for generating an echo back signal responsive to the test portion of the excitation signal; and

10     a recorder for recording any received echo signal allowed to pass through the echo canceller.

28.     The system of claim 26 wherein the preamble portion sets timing associated with performance tests defined in ITU-T G.165 and G.168 standards.

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29.     The system of claim 26 wherein the preamble portion identifies a type of test portion.

30.     The system of claim 26 wherein the preamble portion identifies a performance

20     test.

31 ~~32~~.     The system of claim 26 wherein the preamble portion is a correlated pulse code modulated sequence capable of being differentiated from the test portion of the excitation signal.

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32.     An echo canceller, comprising:

a receiver for receiving an excitation signal including a preamble portion and a test portion; and

a decoder for decoding the preamble portion, the decoded preamble portion configuring the echo canceller during testing.

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33.     The echo canceller of claim 32 wherein the decoder differentiates the preamble portion from the test portion.

34.     The echo canceller of claim 32 wherein the decoder extracts control information from the preamble portion and wherein the controller controls the echo canceller responsive to the control information.

35.     The echo canceller of claim 32 wherein the preamble portion identifies the test portion.

36.     The echo canceller of claim 32 wherein the preamble portion identifies a test to be performed on the echo canceller.

37.     A computer readable medium having stored thereon instructions, that, when executed by a computing device, result in:

        generating an excitation signal having a preamble portion and a test portion; and

        controlling an echo canceller responsive to the preamble portion.

38.     The computer readable medium of claim 37 including measuring a performance parameter a predetermined time before application of the test portion.

39.     The computer readable medium of claim 37 including measuring a combined loss a predetermined time before receiving the test portion.

40.     The computer readable medium of claim 37 including encoding information identifying a type of test in the preamble portion.

41.     The computer readable medium of claim 37 including encoding information identifying a type of test portion in the preamble portion.

42.     The computer readable medium of claim 37 including encoding the preamble portion such that it is distinguishable from the test portion.

43.     A computer readable medium having stored thereon instructions, that, when executed by a computing device, result in:

receiving an excitation signal including a preamble portion and a test portion; and

decoding the preamble portion, the preamble portion configuring the echo canceller during testing.

5    44.    The computer readable medium of claim 43 including:

inhibiting adaptation in the echo canceller responsive to the preamble portion; and

clearing a register in the echo canceller responsive to the preamble portion.

45.    The computer readable medium of claim 43 including disabling a processor in

10   the echo canceller responsive to the preamble portion.

46.    The computer readable medium of claim 43 including identifying a test to be performed on the echo canceller responsive to the preamble portion.

15   47.    The computer readable medium of claim 43 including identifying a type of test signal responsive to the preamble portion.

48.    The computer readable medium of claim 43 including differentiating the preamble portion from the test portion.